INTRODUCTION

Human beings are influenced directly or indirectly by the non-living and other living components which we collectively call 'environment'. From the beginning of civilization one can find that man has been dependent on plants. People made use of the traditional knowledge of plants for various purposes. Indigenous communities living in the forest derive food, medicine, fuel wood, timber etc from plants. Man has managed to achieve several heights but plants are not in the picture anywhere.

Floristic studies help us to assess the plant wealth and its potentiality of any given area. The term potentiality does not restrict to only economic aspect but also equally implies the environmental aspects. Floristic studies also help us to understand the basic aspects of biology such as speciation, isolation, endemism and evolution. The floristic studies are never ending. As long as plant life exists on earth, these studies will continue. Flora of any area is not fixed. It changes from time to time. Various ecological factors, mostly biotic, change the floristic components. The total number of species may be changed; dominant species may be replaced by other species; the floristic composition, i.e.; family: genus: species ratio may be changed. Unless the floristic information is thoroughly available from all the corners of India, the flora of our nation will remain a dream.

The Hooker's flora of British India (1875-1897) compiled during 18th century provides the culmination of floristic and taxonomic research of a team consisting of dedicated scientists. The flora proved a useful tool all these years and accelerated the documentation of many remarkable floras like the Flora of Madras Presidency (1915-1936); Flora of Bombay Presidency (1908, rep. ed. 1958); Flora of Upper Gangetic Plains (1973 rep. ed.) etc. Three small books on the plants of Daman and Nagar Haveli were published in Portuguese by Caetano Gracias (1899) and C.F. Xavier Gracias (1902 & 1927) but they were of no practical utility. The UT of Dadra and Nagar Haveli is also blessed with first flora, i.e. Flora of Goa, Diu, Daman, Dadra and Nagar Haveli by R.S.Rao.

THE PRESENT STUDY AREA

The Union Territory of Dadra & Nagar Haveli is known for its lush green forests. Its capital Silvassa has been derived from the Portuguese word SILVA meaning WOOD. The Portuguese occupied Nagar Haveli on 10th June 1783 and Dadra on 22nd July 1785 on the basis of Friendship Treaty executed on 17th Dec.1779 as compensation towards damage to the Portuguese frigate by Maratha Navy. The area was full of Forests and Wildlife. The Union Territory got liberated on 2nd August 1954 by the local people with the help of “Azad Gomantak Dal” ending 175 years of Portuguese Rule.

The Union Territory of Dadra and Nagar Haveli is situated on the western coast of India between the parallels of 20° and 20°25' of latitude north and between the meridian 72°50' and 73°15' of longitude. The territory is surrounded on the west, north and east by Valsad district of Gujarat and in the south, and south east by Thana and Nasik districts of Maharashtra. The district has a hilly terrain especially towards the north-east where it is surrounded by the ranges of Sahyadri Mountains (Western Ghats). The central region of the land is almost plain and the soil is rich and fertile. The terrain is intersected by the river Daman - Ganga and its tributaries like Dongavkhadi, Sakaltod, Kenai, Ambabari, Piparia, Nar and Kolak. Most of these tributaries are ephemerals. The river Daman - Ganga rises in the ghat 64km from the coast and discharges itself in the Arabian Sea at the port of Daman.

The total geographical area of Dadra & Nagar Haveli is 491 Sq.Kms. Of this 40% is covered by forests. The forests here are classified as Group 3 B C 2, South Indian Tropical Moist (Mixed) Deciduous Forest.

SOIL: The geographical strata of the area belongs to the Deccan trap which are made up of basic volcanic rocks of basaltic composition. The soils are the mixture of clay and Murrom. The texture, composition and depth vary from place to place depending upon erosion rate. Generally on hill slopes and plateaus the soil is shallow and rocky; while in plains it is bouldery and deep; in addition to common murromy shallow type.

CLIMATE: The climate of the area due to proximity to sea is warm, humid and equable. Though three distinct seasons viz. monsoon, winter and summer are visible in a year, the dry period is felt for a long spell. Rainy season starts in July and extends up to September or October. However, the temperature comes down in November and pleasant cold weather continues up to February. Summer starts from March and the dry period extends up to June. May month is the hottest and January is the coldest. The average maximum temperature is 33.5°C and the average minimum temperature is 20.8°C. The average annual rainfall of the area is 2346mm which is received on an average of 73 days. The maximum rainfall is received in the month of July. The humidity varies from 30% to 85% in the months of May and August respectively.

TRIBALS: 62 % of the total population of Dadra and Nagar Haveli belongs to the tribals. For day to day basic needs, the tribals depend on the forest.

The major land use pattern includes cultivable land, human settlements, marshlands and grasslands. Population of entire area is a free mixture of city dwellers and agrarian community. The area supports rich ethnic diversity accounting to total 07 tribes inhabiting different villages. The population census as per 2001 reveals the presence of 220490 individuals. The tribal population accounts to 137225 this comes to 62.24 percent of the total population. The seven tribes residing here are those of Dhodia, Koli Dhor, Dubla, Kathodi, Kokna, Nayka and Varli.

The present area of Dadra and Nagar Haveli is selected for the floristic studies because it has not been given attention despite its luxuriant vegetation by Rao (1986) in his flora of Goa, Diu, Daman and Dadra and Nagar Haveli and T.G. Gohil (1996) in his work done in Floristic studies of the Bonta Round Forest, Dadra and Nagar Haveli. The ethnobotanical study of this area has been done by Subnis and Bedi (1983) who made a list of about 25 species used by adivasis from Dadra, Nagar Haveli and Daman. It is evident from this that the area has remained botanically virgin and not explored extensively and intensively even though rich in vegetation.

As mentioned above the area was previously explored only by R.S.Rao (1986) and T.G.Gohil (1995). Since the year 1995 there is no information as to what is the present status with respect to the flora of the area and hence the study was initiated with following objectives:

OBJECTIVES

- Thorough floristic inventory of the study area.
- Documenting floristic diversity and vegetation pattern of the area.
- Documenting current ecological status of plant species and to study habitat diversity: two of the salient features of biodiversity.
- Preparing a thorough database on the wild cultivars/cultivar diversity of the area.
- Documenting effect of biotic and abiotic factors on flora and vegetation of the area.
- Documentation of ethnobotanical data, since area has a good ethnic and cultural diversity.

METHODOLOGY:

The methods used in this research as –

- **Participant observation**: Survey of the different areas was done.
- **Soil** of the different areas were evaluated for the properties like pH, conductivity, radicals like sulphate, chloride etc.
- **Data** regarding the **average rainfall** for the past five years was considered.
- **Collection of the plants** were done **season wise** and on the basis of ethno botanical use.
- By **interviewing local people**, the local name of plants and their usage were documented.
- Collection of the pants & **preparation of herbarium**.
- **Photography** of the plants & forest cover
- The plants were collected, identified, and preserved in the form of Herbarium and Photographs.

RESULTS AND DISCUSSIONS

The intensive and extensive survey of the area revealed the presence of total **833** species, distributed over **116** families. The break up of statistical synopsis of the flora is as given below: -

- **Total dicot genera** - 396
- **Total monocot genera** - 105
- **Total dicot species** - 663
- **Total monocot species** - 170
- **Total plant families reported** - 116
- **Total dicot families** - 95
- **Total monocot families** - 21
- **Families represented by single genera** - 39
- **Genera to species ratio –** 1: 1.66

The life-form analysis of the area shows the presence of more **herbaceous vegetation**. Entire vegetation of the area has been divided into following vegetation biomes:

1). Grazing land.

2). Hedges.

3). Rural vegetation.

4). Post harvest vegetation.

5). Weeds.

6). Vegetation along roadsides and

7). Vegetation along riverbeds and riverbanks.

The influence of industrialization, over population, loss of potential habitat, climatic changes etc., definitely alter the vegetation pattern of the area, thereby posing effects on flora also. Hence the effects of biotic and abiotic factors are also studied to varied extent.

All these results are well documented and presented in the thesis supported with sufficient photographic evidences and latest references. Lastly, it is hoped that this piece of work will be of immense help for those working on biodiversity, ecology, taxonomy and ethnobotanical aspects.

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